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Danthonia



Volume 1 Number 4

1993

NEWSLETTER OF THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION

Sunraysia Oasis Botanical Garden at Mildura

One of the newer members of the ANPC is the Sunraysia Oasis Botanical Gardens in Mildura, NSW.

Mildura lies in the extreme north-west of Victoria, on the Murray River. The city has a population of 18000 with a district population of 42000. The annual rainfall is 250 mm and the district is heavily dependant on irrigation for its survival.

In 1983, four men with horticultural backgrounds brought together a select committee for the purpose of creating a botanical garden. A Committee was chosen of sixteen people who were successful achievers in their particular fields and comprised business people and horticulturists. This initial decision has proved to be a highly successful combination. Incorporation was paramount to enable a legal entity to acquire land, enter into contracts and obtain tax concessions.

A specialist sub-committee investigated 27 possible sites which took three years of intensive research. The chosen site was an area of 150 hectares approximately 6 kilometres from Mildura, adjoining the Murray River in New South Wales. It had the advantages of being close to the city, having water

adjacent, being flood free, minimal frost risk, excellent soils and with sealed roads and power close by. The land was grazing land leased from the New South Wales Government. The lessees generously surrendered the lease to the Crown, which, after 3 years of survey work and investigation, granted a reserve in perpetuity to the incorporated body.

During this period the Committee obtained a grant of \$10 000 which was used to employ the services of respected horticulturist and designer, John Wrigley. His brief was to prepare a blueprint - a detailed framework of the steps necessary to create a garden on that site. His report when completed was comprehensive and has been relied on heavily to date.

The public launch and fund-raising campaign commenced in March 1989 at a dinner with Mr Harry Butler as guest speaker. Money was solicited at three levels - Patrons, who donated in excess of \$1000, Garden Donors, (less than \$1000) and Friends of the Gardens (\$10). Within nine months some \$200 000 was raised from individuals, companies, service clubs and councils plus many promises in kind. An active Friends of the Gardens → page 3

From the National Office

A new title for 1993. It's not easy to think of a title that means 'integrated plant conservation' and that hasn't been done before! So we didn't do it. *Danthonia* is of course a genus of grasses. Grasslands are among the world's most threatened plant communities, and one of the communities that has not received its fair share of attention. Australia currently lists one species of *Danthonia* as 'endangered' and that is the species pictured on our cover, *Danthonia popinensis*, described in 1989 by Morris.

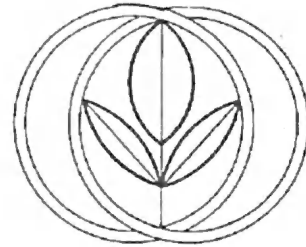
As this is your newsletter we want to publicise what you, as a member of the Australian Network for Plant Conservation, are doing in your conservation work. The Network consists of more than a hundred members, some large research-based organisations, many community groups and a number of 'concerned individuals'. Please use *Danthonia* to publicise your work, to express your concerns or to say where you think the ANPC and its members should be heading. We are as delighted to hear about the small projects as we are about the big ones.

Now that we have an upgraded style of publication it's easier for us to take illustrations. If you are sending an article for publication, please consider also letting us have a photograph, drawing map or table to illustrate your work. The only proviso is that it should reproduce well in black and white.

Being the start of 1993 it is also time for renewing subscriptions, if you joined before September 1992. Your subscription is vital to the continuation of the ANPC as an organisation.

We wish you all a happy and productive year in 1993

Opinions expressed in this publication are those of the author and not necessarily those of the publisher.



Danthonia

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Sunraysia Oasis Botanical Garden

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group was formed which has met regularly on site, assisting with a wide range of tasks.

Immediately work commenced on the erection of a rabbit and kangaroo-proof fence, courtesy of local service clubs and TAFE college students. In December, 1990, a successful vermin eradication program took place. An extensive soil analysis was carried out and a fifty metre grid marked over the entire area. During 1991 power was connected, with a 50% contribution by the NSW Electricity Commission and a water licence for 350 megalitres obtained. This was a major step as no irrigation licences had been granted in the past 17 years by the River Murray Commission. In early 1992 the pumps and filtration plant were installed at a cost of \$85 000, their design being the result of 3 competing companies pooling their expertise and working together.

The site has been divided into 3 sections. The first, of 40 hectares, abuts the river and, save for barbecue sites and nature trails, will not be touched in the foreseeable future. The second, comprising 60 hectares, has been fenced with rabbit and kangaroo-proof wire, and with the removal of vermin will be allowed to regenerate as a 'pre-white settlement' dryland forest.

The third area, of 50 hectares will receive our full attention. Of this area, 23 hectares will be devoted to the Australian flora and exotics under irrigation with 27 hectares devoted to regional and

other dryland flora.

The Committee believes it is important to build a botanical garden that will satisfy the local population. That population, of predominantly European background, has a perception of a garden of green lawns and flowerbeds. It was decided to commence the exotic area with a spectacular rose garden comprising 1 624 rose bushes, the garden being designed by the current president of the World Federation of Rose Societies, Mr David Ruston, in collaboration with Sunraysia horticulturist Mrs. Lois Smith. The rose garden has been built by the combined Apex Clubs. The rose bushes, all donated, have been 'sold' to the public at \$20 per bush and within the first 3 weeks of the scheme in excess of \$13 000 was raised. The exotic area will feature flora exhibits in 'regions', such as Africa, Europe, Asia and so on. The dryland area will also be in regions but predominantly Australian in flavour. The largest area will comprise flora growing within a 300 kilometre radius of Mildura. Other regions will include the Kimberley, Flinders Ranges etc. A small area of desert plants from overseas will also be established. Work has commenced as a result of a grant from Greening Australia to treat an area affected by salt, a \$60 000 grant from the Department of Employment, Education and Training to employ a supervisor and 10 unemployed persons and a \$50 000 grant from Priority Victoria which will employ 15 unemployed persons for 40 weeks; 20 weeks on

site and 20 weeks at TAFE college.

We have also been fortunate that a local Rotary Club removed a 130-year old homestead from the Mungo National Park and rebuilt it in its entirety within the Botanic Garden. This will serve initially as a base for operations and eventually as an education facility for school children.

The Garden was opened in November, 1992, when the public was able to see the rose garden, nature walks and homestead as an indication of what the future will bring. The philosophy of our Committee is to create a garden with the commitment of the community. We wish to prove to ourselves, first and foremost, that the project is achievable with our own independence and resources. Having proved ourselves we shall then approach the Federal and State governments for assistance with the runs already on the board.

This is an edited version of an address given by John Irwin, Financial Director of the project, to a meeting of heads of arid-region botanic gardens in Alice Springs last August.

Further information from; The Secretary, Sunraysia Oasis Botanical Garden, Box 2809, Mildura, Victoria, 3502



Endangered species section at Coffs Harbour

by A G Floyd, M Sc (For), Project Co-ordinator

The north coast of New South Wales is recognised as a biogeographical region of great scientific importance. One study found that thirteen of the twenty most threatened plant species in New South Wales are restricted to the north coast. Further, there has already been extensive loss of habitat due to land clearance and this is continuing due to the rapid population growth.

Recognising the urgent need for ex situ as well as in situ conservation in order to perpetuate these species, the Friends of the North Coast Regional Botanic Garden set up a special section for rare or threatened species. Three geographic areas were recognised as separate beds, namely NSW North Coast, NSW Central Coast and Queensland.

This philosophy has four main objectives;

- 1 By growing these species in cultivation, their inherent growth weaknesses can be recognised and, it is hoped, minimised. For example, the growth of some species such as *Cassia marksiana* and *Ochrosia moorei* is severely curtailed by defoliating insects. Others, such as *Alloxylon pinnatum* and *Olearia flocktoniae* appear to suffer from soil disorders often causing the death of plants at all stages of development. Whether this is nutritional

or microbiological has yet to be determined.

- 2 There is always the possibility of re-introduction into the wild when suitable areas are in secure tenure and under sympathetic management. For example, *Zieria prostrata* was originally known only from four coastal headlands. However the most southerly occurrence at Sawtell was destroyed by heavy vehicular usage. Fortunately cuttings were sent to the Australian National Botanic Gardens in Canberra from which it is hoped it can be re-introduced by Coffs Harbour City Council to the original headland as vehicles are now excluded.
 - 3 Interested individuals can actually see live plants of these endangered species. They can then better recognise them in the wild and thereby increase knowledge of their ranges.
 - 4 The community can be encouraged to appreciate why these endangered species require special consideration. This is achieved by the metal label beside each plant indicating why they are now endangered, as well as a booklet prepared by the Friends on sale at the Botanic Gardens Information Centre.
- The first plantings, in

March 1985, were a joint project by the Friends and Coffs Harbour Primary School. Seed or cuttings for the plantings have been provided by both professional and amateur local enthusiasts with a deep interest in the native plants of their region. There are now 107 species growing in the original Rare or Threatened Plant Beds. Additional plantings have commenced and the project will continue to be one of the many interesting features of the North Coast Regional Botanic Garden.

For information about the North Coast Regional Botanic Gardens, please contact The Secretary, Friends of the North Coast Regional Botanic Gardens, PO Box 648, Coffs Harbour, NSW 2450



La Trobe University surveys *Stemmacantha australis* (Gaudich.) Dittrich

The following is an edited version of a paper written by Neville Scarlett, of the Botany Department, La Trobe University

The Austral cornflower, *Stemmacantha australis* (Gaudich.) Dittrich, has been known in the past as *Centaurea australis*, *Luzea australis* and *Rhaponticum australe*. It is a striking thistle-like plant with flowering stems up to 1m high and heads up to 5cm diameter. It formerly occurred in grassland and woody grasslands from eastern Victoria to west of Gladstone in Queensland but is now known only in Queensland from the Toowoomba area to between Springsure and the Callide Valley. *Stemmacantha* is now extinct in Victoria and possibly also in New South Wales. It has not been collected in Victoria since 1854 (by Mueller) and extensive surveys in 1983-4 failed to locate the species.

This species is classified by Leigh and Briggs (1988) as 3V. It is not present in any biological reserve.

In 1983, La Trobe University Botany Department began a re-introduction project at Lake Omeo Crown Land Reserve, near to one of von Mueller's localities, using seedlings from a single Darling Downs provenance, the site of which has since been destroyed by roadworks. The success of the project will depend partly on the adaptability of the parent population, particularly with regard to frost and drought resistance.

Stands of *Stemmacantha australis* located

In order to broaden the genetic base as much as possible, seeds and/or living plants were collected from as many populations as possible on the presently known southernmost edge of the species' distribution on the southern Darling Downs in March 1990. Roadsides were checked in the triangular area between the Condamine River, the Toowoomba-Karara Road and the New England Highway, with Toowoomba at its apex, and the road between Allora and the 'Gordon Country' grid was also checked. Ten major stands of *Stemmacantha* were located in this search. During the field work, populations of three other rare or threatened species, *Discaria pubescens* (3RCa), *Picris evae* (3V) and *Thesium australe* (3ECi), were located. *Discaria pubescens* and *Picris evae* are both absent from conservation reserves in Queensland and *Thesium australe* is found in only one reserve in the State (Thomas & McDonald, 1989).

In situ conservation perspectives

The attempt to re-introduce *Stemmacantha australis* in Victoria may not succeed. Moreover, the rapid extension of pasture improvement and crop cultivation in the southern Darling Downs and probably throughout the rest of the species' range in Queensland make its survival on private land unlikely. Action to secure in situ conservation is necessary. All but two of the *Stemmacantha* stands located on public land during seed collection were small road re-

serve stands, vulnerable to roadworks, firebreak ploughing or slashing and to fertilizer and herbicide drift from adjacent farms.

Two sites, Allora Reserve and Goomburra Road, were exceptional, being relatively large, non-linear areas. At Allora, *Stemmacantha* occurs with *Discaria pubescens* within an area of 1 hectare, but this is within a larger reserved area. At Goomburra the road reserve extends downslope on the north, and on the south there is a large area which, though partially quarried for stone, could also function to conserve *Stemmacantha*. Both sites need to be further assessed for the creation of special reserves for *Stemmacantha* and for *Discaria pubescens* and *Picris evae*, both of which are also found at this locality. This, plus fencing, sign-posting and regular monitoring are needed as a matter of great urgency.

Regarding *Thesium australe*, it was unfortunately found only on narrow road reserves. However the populations located may be the last survivors in the southern Darling Downs, possibly now on the north-western edge of the species' distribution. The site on which *Stemmacantha*, *Picris* and *Thesium* occur together is particularly valuable and the owner of the property adjoining the site seemed sympathetic to the idea of protecting the *Stemmacantha*.

This field work was funded by the World Wide Fund for Nature Australia as part of Project 45: Propagation of Threatened Australian Plants in Victorian Reserves.

Endangered flora network

The first meeting of the Australian and New Zealand Environment Council's Endangered Flora Network (EFN) was held on Thursday 3 December in Canberra to discuss the national listing of threatened plant species. The EFN is made up of botanists representing the conservation Departments of each of the States, the Commonwealth and the CSIRO. Within that group both the ANPC's National Office and Advisory Committee are represented. The Secretariat for the EFN is provided by the Endangered Species Unit of the Australian

National Parks and Wildlife Service.

The principal outcomes of the meeting were

- 1) an agreed list of Threatened Australian Plants to be endorsed by the ANZECC Standing Committee on Conservation for 1992
- 2) an agreed protocol for the updating of the list.

As the 1992 list will only give the national conservation status it does not necessarily indicate the situation in individual states. However, it was agreed that for future listings, the state conservation status

will also be shown. It was also agreed that for any new listings or changes to current listings a justification will be provided. It is proposed that the data entry for the list will be the responsibility of the Centre for Plant Biodiversity Research which is a newly proposed joint CSIRO/ANPWS initiative.

The agreed list of Threatened Australian Plants and its future maintenance is of great importance to the ANPC as the list is essential for us to determine priorities for our conservation work.

MEMBERS ACTIVITIES

The George Caley Botanic Garden

The George Caley Botanic Garden is located within the grounds of the Faculty of Horticulture at the University of Western Sydney - Hawkesbury, Richmond, New South Wales.

The Garden is being developed as both a teaching and research resource for students and staff and became an ANPC member in July 1992. The concept, design, development and construction has largely been performed by Peter R Lister, Technical Officer in Botany and Ecology and Curator of the Faculty's herbarium and living collections. The Garden is still very much in an embryonic state with the excavation of flood-relieving ponds and major irrigation

works completed. Propagation is underway and planting has commenced now that weed control is in hand.

The site is relatively small (100 x 50 metres) and is on Clarendon sand of pH 5.9 to 7.0. It is planned to hold not only horticulturally and economically important Australasian plants but also those of ethnobotanical interest, although its main aim is to focus on locally rare or threatened taxa. It will complement the campus' remnant natural vegetation of some 150 hectares.

The Garden is named in honour of George Caley, botanist and collector to Sir Joseph Banks in the Colony of New South Wales from 1800 -1810. Caley traversed the surround-

ing countryside collecting some 2000 species from the Cumberland Plain and Blue Mountains.

A small official opening will take place on 15 April, 1993, celebrating Caley's arrival at Port Jackson on that day in 1800.

For further information on the George Caley Botanic Garden please contact

Peter R Lister
Curator of Collections
Faculty of Horticulture
UWS-Hawkesbury
Locked Bag No. 1
PO Richmond
NSW 2753
phone 045-701466
fax 045-701314

ALCOA and the Points—working together

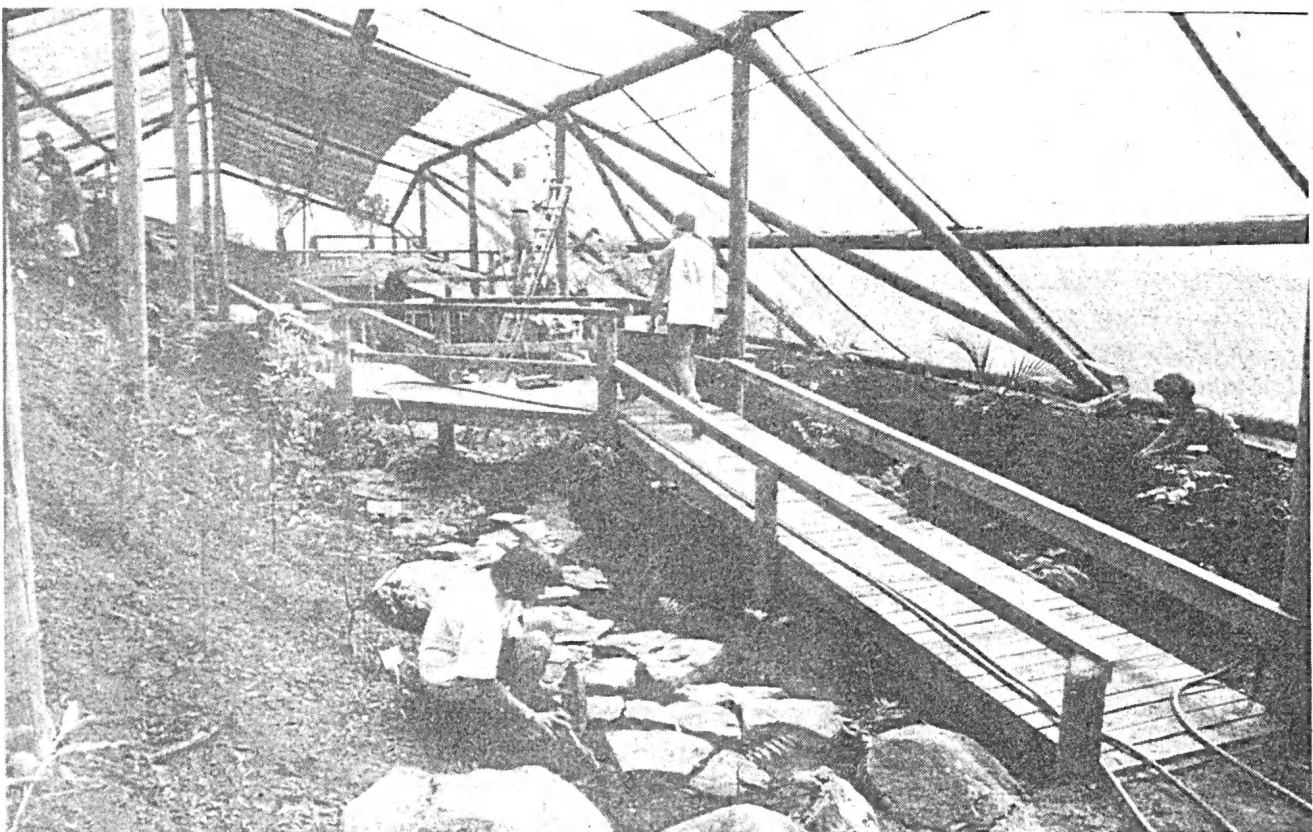
The Quarterly Report of the Alcoa Landcare Project (Number 2, September 1992) told the story of the co-operation between the mining company and the Peter Francis Points Arboretum at Coleraine in western Victoria. The Arboretum occupies 37 hectares of an abandoned quarry and rubbish dump which was developed as a result of the enthusiasm and perseverance of Peter Francis who recognised the potential of the site more than 26 years ago. Francis gathered together a group of like-minded enthusiasts to preserve and develop the area as a flora reserve. According to the Report, the Arboretum now houses more than 2000 different varieties of Austra-

lian plants, including nearly 500 species of eucalyptus. Peter Francis died in 1989, but one of his last wishes was that a shadehouse be built to accommodate rainforest plants. The project was completed in November last year by the Framlingham Aboriginal Trust of Purnim with funding provided by the Department of Conservation and Environment, Victoria, which now manages the site. Some items for the shadehouse construction came as re-cycled materials from Portland Aluminium.

Shadehouses need water and that's where Alcoa came in again. With funds provided by Alcoa Landcare, the Friends of the Points bought and installed an automatic watering

system, with members of the Australian Trust for Conservation Volunteers helping with the labour. Both the Friends of the Points and Alcoa are members of the Australian Network for Plant Conservation.

For further information contact: The Secretary, Friends of the Points, Box 29, Coleraine, Vic, 3315.



Friends of the Points and workers from the Australian Trust for Conservation Volunteers work together to install equipment in the new shade house. (photo courtesy Alcoa Australia)

CONFERENCES

Botanic Gardens Conservation Congress

The Third International Botanic Gardens Conservation Congress entitled "Botanic Gardens in a Changing World" was held in Rio de Janeiro on 19-25 October, 1992. The Congress was organised by the Jardim Botânico do Rio de Janeiro and Botanic Gardens International. The object of the Congress was to provide an opportunity to review the continued progress and involvement of botanic gardens worldwide in the implementation of the World Conservation Strategy and in particular their response to the challenges posed by global change. It gave delegates the opportunity to discuss many of the issues that challenge botanic gardens world wide as they develop conservation programs and plans to preserve endangered biodiversity and to strengthen their institutions for these tasks. There were three days of papers and a day of workshops. There was also a visit to the Jardim Botânico do Rio de Janeiro.

The representation of Australian Gardens at the Congress was extremely good. Delegates attended from the Royal Botanic Gardens; Sydney; the Royal Botanic Gardens, Melbourne; the Adelaide Botanic Gardens; Kings Park and Botanic Gardens; Royal Tasmanian Botanical Gardens; Darwin Botanic Gardens; Australian National Botanic Gardens and the Euro-

bodalla Regional Botanic Gardens. Papers presented by Australian delegates covered corporate planning, education, maintenance programming, plant reintroduction and tissue culture, as well as the Australian Network for Plant Conservation.

The Conference not only provided Australian delegates with the opportunity to hear and learn about other conservation programs throughout the world but also highlighted the level of interest that is currently being shown by Australian gardens.

Kawarra Conference

The Australian Plant Symposium entitled "Towards a Better Understanding of Australian Plants" was held at the Kawarra Australian Plant Gardens in the Dandenongs in Victoria from 9-14 November, 1992. It was sponsored by the Shire of Lilydale and organised by the Kawarra Gardens Committee and was attended by a wide range of local enthusiasts.

The Symposium was divided into three two-day seminars being for Landscaping and Amenity Horticulture, Horticulture and Floriculture and for Home Gardening Enthusiasts. The strong emphasis of the symposium was on the cultivation of Australian Plants and it was intended to guide and inform participants about the benefits that Australian plants have to offer for horticulture and landscape use. Each of the Seminars in-

cluded a half day field trip to local sites and horticultural businesses.

A paper entitled "The Conservation of Rare or Threatened Australian Plants through Cultivation" was presented by Mark Richardson from the Australian National Botanic Gardens during the second seminar. The knowledge and interest shown in Australian plants by the many so-called amateurs at the Symposium again emphasised the need for the involvement of community groups in plant conservation.

PRELIMINARY NOTICE OF CONFERENCE

Conserving biodiversity: threats and solutions

29 JUNE - 2 JULY 1993

As part of its 25th Anniversary the New South Wales National Parks and Wildlife Service will host a four day conference on the conservation of biodiversity. The Conference will be held at the University of Sydney. The conference is directed at finding solutions to the crisis we face in stemming the current decline of biodiversity. Organised around the theme of threats to natural systems and species, the conference will seek to review the nature of these threats and the range of solutions available to counter them. The aim is to define a framework for action, ranging from practical management in the field to planning and legislative requirements needed to sustain biodiversity into the 21st century. The proceedings of the confer-

ence will be published as a book.

Further information is available from the Conference Co-ordinator, Lynda Wild, National Parks and Wildlife Service, PO Box 1967, Hurstville, NSW 2220, telephone 02-5856417

First announcement of 1993 ANPC Conference

A major project for the ANPC National Office over the last 6 months has been the National Endangered Species Collection which will include living plants and germplasm held by organisations throughout Australia. As we are now starting to be able to provide information about 1) what the current national listings of en-

dangered plant species are and 2) what plants are being grown and by whom, it is important that members begin to identify those species and other conservation areas to which they wish to contribute. To assist in this the first ANPC Conference will be held in Hobart in December 1993 to coincide with the Royal Tasmanian Botanical Gardens' 175th anniversary.

Theme: "An Action Plan for the Australian Network for Plant Conservation"

Locality: Hobart, Tasmania.

Date: 7 - 10 December 1993.

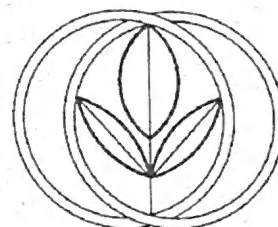
Attendance: Members and non-members.

Speakers: Australia, SE Asia and SW Pacific.

The Conference will be a mixture of papers and work-

shops with an emphasis on the latter. The subjects to be covered will include the endangered species collection, germplasm storage, priorities, integrated efforts (including reintroductions), databasing, funding and education.

Accommodation will be available at a reasonable cost and the Conference fee will also be kept as low as possible.



PLANT NOTES

Recovery Plans

According to the latest issue of *On the brink!*, Newsletter of the Endangered Species Program, the ESP has funded the writing of Recovery Plans for 63 threatened vascular plants and the implementation of 38 of the Plans.

Among the Plans funded are two from South Australia, being implemented by the Black Hill Flora Centre of the Botanic Gardens of Adelaide. The Centre is studying the Monarto mintbush, *Prostanthera eurybioides*, which is restricted to two disjunct populations of about 200 individuals in total. It grows in heathland and mallee shrubland which have been moderately invaded by exotic herbs. Primary threats appear to be land

clearance, weed competition and browsing by rabbits and possibly kangaroos. Other threats include small population sizes, small areas of habitat and potential trampling by tourists. The recovery tasks are being implemented by the Centre, the Society for Growing Australian Plants and the South Australian National Parks Service. Among the management tasks required are propagation for ex situ study and future reintroduction, fencing and weed control and monitoring of the sites. Research tasks include field studies of ecology, phenology, reproductive biology and threats. The Black Hill Flora Centre is also studying propagation techniques, factors affecting growth and

mycorrhizal inter-relationships. This research will benefit other threatened species of *Prostanthera* in Australia and as a result of this particular survey two other threatened plants which occur in the Monarto mallee ecosystem will also benefit from recovery actions.

Another South Australian species which is the subject of a recovery plan is *Acacia cretacea*, the chalky wattle, which is restricted to a single remnant population of about 500 plants along roadsides and on adjacent farming land in the north-east Eyre Peninsula. The remaining population is now scattered over seven uncleared sand ridges, following extensive clearing of low-lying areas for agriculture. The species is further threatened by weed

competition and grazing by rabbits, kangaroos and domestic stock. Research at Black Hill will help increase the species' numbers together with field work to protect it from herbivores. It is noted that this wattle is a handsome tree with potential for the garden and broader landscape.

A Recovery Plan is also underway for *Diploglottis campbellii*, the subject of Michael Healey's article in our last Newsletter. The Plan is being implemented by the NSW National Parks and Wildlife Service and involves protection and expansion of the natural habitat, removal of threats and propagation and planting, both in situ and ex situ. It is interesting to note that public concern about the remaining *Diploglottis campbellii* trees has given the species an unusually good chance of survival in the future.

Zieria prostrata is a prostrate shrub that is now known from only three headlands along a 3km stretch of coastline in the Coffs Harbour area of New South Wales. A recovery plan is now in place for the species that will include the rehabilitation of habitat, weed control and restriction of indiscriminate usage of the area for recreation. Plants will be cultivated using a range of genetic material and planted in rehabilitated areas.

Acacia pubescens

It seems that prompt action by members of the National Trust of NSW, the National Parks Association, SGAP and local conservation organisations, together with the co-operation of a developer and a local council, may have been responsible for saving the last population of *Acacia pubescens* in the Sutherland Shire from destruction. Graham Quint, writing in the 'Bush Management News-sheet' of the National Trust of NSW, (3rd Quarter 1992), tells of being taken to see the population by Alan Fairley, co-author with Philip Moore of 'Native Plants of the Sydney District'. Only a week later the local paper announced a housing development application for the very site! "Neither the Council nor the developer had been aware of the plant's presence until telephoned by Alan Fairley, even though Alan had known of the rare plant stand for a number of years", writes Graham Quint.

The conservationists held an on-site meeting with the developer and Council representatives. Following submissions the developers were able to present a modified proposal that sets aside the site as a 'public reserve'. The National Trust has offered to assist Council in preparing a management plan for the reserve. The News-sheet quotes a spokesperson for Sutherland Shire Council as suggesting that 'flora studies' might become a standard part of environmental assessment procedures for determining development applications. "If we had a flora study, this situation might have been

foreseen. Some developers might say that's unreasonable because it's an added cost, but it only has to be a more detailed version of a plan already prepared for trees on affected development sites", said the spokesperson. The author thanks Pioneer Homes for their co-operation in achieving this happy result.

Editorial comment: one of the worrying aspects of cases like this is that, so often, biologists and conservationists know of sites of rare species, but the land managers remain uninformed. We can hardly be surprised when builders or bulldozer drivers destroy rare species. They are almost certainly not trained to recognise them as such. It is the duty of those of us with the knowledge to pass it on to those who have to make the decisions. It's too late after the 'dozer has gone through.

Study groups workshop

A workshop for leaders of SGAP Study Groups was held in October at the Australian National Botanic Gardens, organised by the ANPC. The topics covered included study group administration, including funding, newsletters and questionnaires, guidelines for responsible collecting from the wild and the maintaining of a living collection, propagation by seed and cuttings and publicity and public relations. It is intended that a manual will be produced from the information that was shared during the workshop.

Horticultural fellowships

The Jerusalem and University Botanical Garden Churchill Fellowship for the Study of Horticulture in Israel is a joint initiative of the Botanical Garden and the Winston Churchill Memorial Trust. The chosen Fellow will spend about a year in Israel based in Jerusalem and will be given the opportunity to travel in Israel, join tours around the country and gain experience and knowledge in many aspects of horticulture, gardening and irrigation technology. The Fellow will assist in caring for the 5.5 acres comprising the Australian section of the Jerusalem and University Botanical Garden.

The selected applicant will receive return airfares to Israel and accommodation, meals and a living allowance will be provided.

Applications for all Churchill Fellowships close on 28 February 1993. Following the selection process successful applicants will be announced in June 1993 and will normally go overseas early in 1994. For this particular Fellowship departure in October 1993 would be preferable so as to tie in with the Israeli academic year.

Information about all Churchill Fellowships is available from:

The Winston Churchill Memorial Trust
218 Northbourne Avenue
Braddon, ACT, 2601
Telephone: 06-2478333

SPECIES PROFILE

Ex Situ Conservation of *Senna acclinis* Randell

Senna acclinis was recognised by Randell (1989), based on *Cassia acclinis* F. Muell., but has been variously treated as *C. glauca* sensu Benth. and *C. retusa* sensu Symon. The distribution of the species is thought to be restricted to rainforest remnants in northern New South Wales and southern Queensland (Randell 1989). Remnant plants were discovered growing at Balgownie near Wollongong in 1986 but were apparently cleared soon after for a housing development and no further collections are known from this area. Fortunately seed was collected from these plants prior to their destruction and propagated at Wollongong Botanic Garden and later at the Botanic Gardens of Adelaide. A single collection was made in southern New South Wales in 1990 at Cabbage Tree Creek, north west of New South Wales since 1976 (Randell, pers. comm.).

Briggs and Leigh (1988) did not give this species a ROTAP category as at that stage it was not accepted as a distinct taxon. It now appears that this taxon should be given a threatened status pending further investigation as to its occurrence (Randell, pers. comm.).

From the Balgownie population, Adelaide Botanic Garden has seven plants in cultivation. These plants are ca. 50-60 cm high and have flowered for the last two years in the summer/autumn period. The last flowering re-

sulted in a number of fruit being set, with collected seed showing very high viability.

The parent plants are cultivated in relative isolation thus limiting the possibility of contamination. Due to the extreme rarity of collection of the species, propagation material from wild populations will be severely limited. In such a case, survival of the species may depend on botanic gardens etc., maintaining their stocks of the species from cultivated propagule material rather than purely from known wild origin material. A small quantity of seed collected from these plants is available for distribution to interested parties by contacting the author.

Trevor Christensen, Botanic Gardens of Adelaide

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Randell, B R, (1990) Revision of the Cassiinae in Australia, 3 *Senna* Miller Sect. *Senna*, *J Adelaide Bot. Gard.* 13; 1-16

Randell, B R, (1992), Personal Communication

Further information from:
Trevor Christensen, Botanic Gardens of Adelaide, North Terrace, Adelaide, South Australia, 5000

Who's who at the office

It occurs to us that many of you may not know who some of the people at the National Office of the Australian Network for Plant Conservation are. And some may actually like to know! So, in alphabetical order, here are some notes on the people that you may speak to if you telephone us, or who you may receive letters from:

Geoff Butler is a Technical Officer at the Australian National Botanic Gardens, where he has worked for the past 20 years. His particular interests are growing Australian plants from seed and cuttings, and he is re-vegetating 20 acres (sic) near Bungendore, NSW. He enjoys the enthusiasm he finds present in community groups related to plants and plant conservation and encourages these groups in whatever way he can. He is a staunch proponent of preserving remnant vegetation and would dearly like to change the attitudes inherent in many public authorities and councils towards native vegetation, though recognises this is probably an impossible task in the Southern Tablelands! He has a particular dislike of the use of exotic vegetation in rural areas. Away from the office he has a great interest in Aboriginal culture and European history in Australia to 1900.

Isobel Crawford is the second person that the Network has been able to employ thanks to funding from the Endangered Species Program. Isobel studied vegetation and wildlife

management at the University of Canberra having earlier obtained a degree in French and history. She also holds qualifications in librarianship. She spent some time as warden of the bird observatory at Rotamah Island in the Gippsland Lakes and maintains her interest in ornithology and in the interactions of birds and plants. Isobel says that she was drawn to her present job because of her interest in conservation of plants through the conservation of their habitats. She has had extensive experience in flora surveys, specialising in the vegetation of south-eastern NSW. Away from work she enjoys growing plants, 'edible or otherwise' and is 'addicted to chooks'. She brews her own beer and, thanks to her education, can swear in French (though not, we hope, at the chooks!).

Lyn Meredith is also a technical officer at the Australian National Botanic Gardens, having started there as a 'temporary' gardener in 1978. He is the National Office person responsible for editing the Newsletter and now handles membership renewals. He has a particular interest in alpine regions and in garden history. He was a founder member of the Monaro Branch of the Australian Garden History Society. Nowadays, much of his time away from the office is spent working on the conservation of vintage motorcycles!

Mark Richardson is the Curator, Living Collections, Aus-

tralian National Botanic Gardens. He studied science at the Australian national University and has a Masters degree in plant physiology. He has long had an interest in the bush and has done a lot of bushwalking, both in Australia and overseas. His interest in horticulture developed whilst growing vegetables in Kiribati, a small island nation in the Pacific. In his work with ANPC he is keen to see organisations like botanic gardens become much more involved in plant conservation. Away from work he helps rehabilitate injured wildlife as a member of the Wildlife foundation

Joe Swartz achieved immortality in Newsletter Number 3. He was the first to be employed on contract with funds provided by the Endangered Species Program. He also has a keen interest in growing plants and has recently taken on the additional job of rehabilitating a weed infested property in Bungendore, NSW, hoping to replace blackberries and boxthorn with some long-lost native vegetation. He spends a lot of time pulling weeds and mulching!

Please note that we don't spend all our time on ANPC work (except for Isobel and Joe). We fit it in when we can!

THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION MEMBERSHIP LIST

Membership renewals are now due.

The date (1993) indicates that the member has joined or renewed for this year.

Addresses and names of contact persons are available from the National Office.

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| Botanic Gardens of Adelaide, SA | Mr David Gordon; Qld (1993) |
| Albury Botanic Gardens, NSW (1993) | Dr Janet Gorst; Tas (1993) |
| Alcoa of Australia Ltd.; WA | Joanne Green; NSW |
| APPM Forest Products; Tas | Greening Australia (ACT) |
| Arid Land Botanic Garden, SA | Greening Australia (NSW) |
| Association of Societies for Growing Australian Plants | Greening Australia (Vic) |
| Australian Association of Bush Regenerators | Greening Australia (WA) |
| Australian Forestry Council, Tas | Mr Barrie Hadlow; ACT |
| Australian Mining Industry Council, ACT | Mrs. Jan Heisler; NSW |
| Australian National Botanic Gardens, ACT (1993) | Ms Laurel Hemming, Vic (1993) |
| Australian Tree Seed Centre, CSIRO, ACT | Dennis Hilder, WA |
| City of Ballarat Botanic Gardens | Mr Peter Hind, NSW (1993) |
| Mr Stephen Barry (1993) | Honiara Botanic Gardens; Solomon Islands (1993) |
| City of Berwick, Vic | Mr. Mark Hoult; NT |
| Dr Robert Boden, ACT | Hunter Region Botanic Gardens; NSW |
| Botanic Gardens Conservation International; UK (1993) | Ms Susan Johnston, ACT (1993) |
| Botanical Preservation Corps; USA | Kingfern Natives; NSW (1993) |
| Dr Barbara Briggs, NSW | Kings Park and Botanic Gardens; WA |
| Dr AHD Brown; ACT | Ms Beryl Langsford, WA |
| Mr Ray Brown; NSW | Limpinwood Gardens Nursery, NSW (1993) |
| Brunswick Valley Heritage Park, NSW | Mr. WJF McDonald; Qld |
| Miss Dulcie Buddee, NSW | Mr. David Mason; NSW (1993) |
| Ms C Burke Qld | Mt Coot-tha Botanical Gardens; Qld (1993) |
| Mr R Burns; Tas | Myall Park Botanic Garden, Qld (1993) |
| Burrendong Arboretum Trust; NSW | Olive Pink Flora Reserve; NT |
| Dr G Burrows; NSW | Dr. Bob Parsons; Vic |
| Center for Plant Conservation; USA (1993) | Mr Brian Quinn, Vic (1993) |
| Irene Champion, Qld (1993) | Rare Plant Consortium, Canada (1993) |
| Anne Coates; WA | Mr. Brett Robinson NSW |
| Coffs Harbour City Council; NSW | Royal Australian Institute of Parks and Recreation, ACT |
| CSIRO, Division of Plant Industry; ACT | Royal Botanic Gardens, Melbourne, Vic |
| Conservation Commission of the Northern Territory (1993) | Royal Botanic Gardens, Sydney; NSW |
| Deakin University, Rusden Campus Library, Vic | Royal Tasmanian Botanical Gardens; Tas |
| Department of Parks Wildlife and Heritage, Tas (1993) | Mrs Esma Salkin; Vic (1993) |
| Mr S Donaldson; ACT | Mr Garry Sankowsky; Qld |
| Dulegal Arboretum; NSW | Mr. Lindsay Sell; NSW |
| Rodger Elliot; Vic | Ms Marilyn Smith, NSW (1993) |
| Eurobodalla Botanic Gardens, NSW | SGAP - Canberra Region Inc |
| Elizabeth Fenton, Vic (1993) | SGAP - Dryandra Study Group |
| Flecker Botanic Gardens; Qld (1993) | SGAP - East Hills; NSW |
| Friends of the North Coast Regional Botanic Garden; NSW | SGAP - Grampians Group; Vic |
| Friends of the Points; Vic | SGAP - Grevillea Study Group (1993) |
| Mrs E George; WA | SGAP - New England; NSW |
| George Caley Botanic Garden; NSW | SGAP - New South Wales Ltd. |
| Ms. I. Gilfedder; Tas | SGAP - Newcastle; NSW |
| Gladstone Tondoon Botanic Gardens; Qld | SGAP - North Coast; NSW |
| Roger Good, NSW | SGAP - North Shore; NSW (1993) |

SGAP - North West; Tas
SGAP - Pine Rivers; Qld (1993)
SGAP - Queensland Region (1993)
SGAP - Redlands; Qld
SGAP - South Australia Region
SGAP - South West Slopes; NSW
SGAP - Tasmania Region (1993)
Stony Range Flora Reserve, NSW
Sunraysia Oasis Botanical Garden, NSW (1993)
Suva Botanical Gardens; Fiji (1993)
Dr. J Tarran; NSW
Threatened Species Network (NT), Northern Territory

Townsville Botanic Gardens; Qld
Tumut Ecology Reserve Trust; NSW
Vailima Botanic Gardens; Western Samoa (1993)
The Waite Arboretum, SA
Mr. Chris Ward; NSW
Wildflower Society of Western Australia (1993)
Wildflower Society of WA - Armadale Branch
Wildflower Society of WA - Mandurah Branch
J & A Willinck, NSW (1993)
Mr. John Wrigley; NSW (1993)
WorldWide Fund for Nature Australia
Zoological Board of Victoria

THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION

Just over 200 hundred years of European settlement has had a severe impact on Australia's natural ecosystems. The current estimate of extinct plant species in Australia is more than 70, with more than 175 species endangered and another 3200 under some degree of threat.

Fortunately, the community is becoming more conscious of the need to protect global environments from the threats facing them. It is universally recognised that the preservation of habitat is the most desirable means of conserving the biological diversity of all organisms. However, some of these organisms are so threatened that the only means of saving them will be to secure them outside of their natural habitat until suitable places can be located to establish them. Some may have to be maintained permanently in ex situ collections. This complementary role for ex situ conservation is now being referred to as **integrated conservation**.

In March 1991 the Australian National Botanic Gardens (ANBG), with support from the Federal Endangered Species Program, held a conference entitled "*Protective Custody*". The aim of the Conference was to involve organisations and individuals interested in plant conservation and to encourage co-operation between these organisations by the formation of a co-ordinating body for plant conservation. Delegates from Britain, Fiji, New Zealand, Indonesia, the Solomon Islands, the United States of America and Western Samoa also attended the Conference.

During the Conference, consensus was reached that the Australian region does need a body to co-ordinate integrated plant conservation. A proposal for the formation of the Australian Network for Plant Conservation (ANPC) was later produced and widely accepted.

The ANPC draws its membership from throughout Australia (in both public and private sectors) and has a national office at the Australian National Botanic Gardens. It will be the co-ordinating organisation for integrated plant conservation in Australia. It will:

- i) establish a multi-site National Endangered Species Collection for use in the practical recovery of endangered species as well as for research, education, display and general horticulture.
- ii) locate and bring together information on integrated plant conservation activities in Australia and provide access to this information for members.
- iii) assist in the national co-ordination of plant conservation projects to avoid duplication of effort.
- iv) provide advice to members and promote plant conservation activities.
- v) communicate on a regular basis by means of a Newsletter.
- vi) organise workshops, training courses and conferences.

